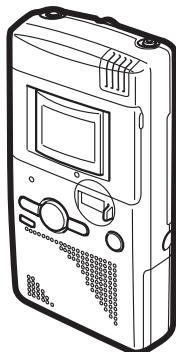




TP-M725 Y(S)
TP-M525 YH(S),Y(S),YL(S)



SERVICE MANUAL

MICROCASSETTE RECORDER

BASIC TAPE MECHANISM : ML-810

This Service Manual is the "Revision Publishing" and replaces "Simple Manual"
TP-M725 Y<S>(S/M Code No.09-003-343-4T1)
TP-M525 YH<S>,Y<S>,YL<S> (S/M Code No.09-003-343-5T1).

aiwa
S/M Code No. 09-003-343-4R1

REVISION
DATA

SPECIFICATIONS

Track system:	Micro cassette, 2 tracks 1 channel, monaural
Usable tapes:	MICROCASSETTE™ (Normal position type)
Frequency response:	250 - 5,000 Hz (2.4 cm/sec) EIAJ
Microphone:	Electret condenser microphone (monaural)
Maximum output:	150 mW (EIAJ/DC)
Input jack:	EXT MIC jack (monaural mini-jack) (1)
Output jack:	EARPHONE jack (monaural mini-jack) (1)
Other jack:	DC 3 V jack
Speaker:	Diameter 36 mm, 8 ohms
Recording system:	DC bias
Erasing system:	DC erasure
Recording speed:	2.4 cm/sec or 1.2 cm/sec switchable
Power sources:	DC 3 V using two (size AA) dry cell batteries AC house current using the AC adaptor Aiwa AC-300/302 [Y(S)] Aiwa AC-620/302 [YH(S), YL(S)]

Battery life:	Battery	Battery life	
		EIAJ Recording	EIAJ 10 mW
	Manganese(R6P) batteries	Approx. 6 hrs.	Approx. 5 hrs.
	Alkaline(LR6) batteries	Approx. 17 hrs.	Approx. 15 hrs.

Dimensions: 62 (W) x 119(H) x 29 (D) mm

(2 1/2 x 4 3/4 x 1 3/16 in)

Weight: Approx. 132 g (4.6 oz.) (excluding batteries)

• Design and specifications are subject to change without notice.

ACCESSORIES LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8A-HX4-903-010	IB, YH(ECK) C<5YHS>		3	87-048-286-010	HP-255 NS<7YSC>	
1	8A-HX4-905-010	IB, Y(EGF) C<5YS>		4	84-TM1-951-010	CARRYING CASE<5YHS, 5YLS>	
1	8A-HX4-906-010	IB, Y(SID) C<5YS>		4	84-TM1-951-010	CARRYING CASE<7YSC>	
1	8A-HX4-907-010	IB, Y(PHNCZ) C<5YS>		5	S2-301-020-100	RC, 4TM1<7YSC>	
1	8A-HX4-904-010	IB, YL(3L) C<5YLS>					
1	8A-HX3-905-010	IB, Y(EGF) C<7YSC>					
1	8A-HX3-906-010	IB, Y(SID) C<7YSC>					
1	8A-HX3-907-010	IB, Y(PHNCZ) C<7YSC>					
2	87-PD3-050-010	STRAP, HAND<EXCEPT 7YSC>					
2	87-PD3-050-010	STRAP, HAND<7YSC>					

ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
IC							
84-TM1-613-080	IC,AN7085NS		C306 87-010-197-080 CAP, CHIP 0.01 DM	C307 87-010-197-080 CAP, CHIP 0.01 DM			
87-A20-367-080	IC,TB2003F-012		C308 87-010-746-080 CAP, TANTAL 10-4	C401 87-010-794-080 CHIP CAPACITOR TN 0.1-20 (A2)			
84-TM1-615-010	C-IC,AN6656S		C402 87-010-196-080 CHIP CAPACITOR, 0.1-25				
TRANSISTOR							
87-026-213-080	CHIP-TR,DTC114YK<5YHS>		C403 87-012-141-080 CHIP-CAPACITOR, 0.22-16F				
89-342-132-080	TR,2SC4213B		C503 87-010-746-080 CAP, TANTAL 10-4				
87-026-239-080	TR,DTC114TK (0.2W)		C504 87-010-503-040 CAP,E 220-4 GAS				
89-327-125-080	CHIP TR,2SC2712GR		C505 87-010-503-040 CAP,E 220-4 GAS				
89-333-266-080	CHIP TR,2SC3326B		C506 87-010-194-080 CAP, CHIP 0.047				
87-026-504-080	SPEED SENSOR NJL5164KQ2-F1		C811 87-016-576-080 CAP,E 330-16 SSL				
87-026-230-080	CHIP-TR,DTA114YK		J1 84-TM1-640-010 JACK, 3.5 HSJ1494-02				
87-A30-179-080	FET,2SJ107GR		J2 84-TM1-630-010 JACK, 3.5 HSJ1493-05				
89-112-134-080	TR,2SA1213Y (1W)		J3 87-009-022-010 JACK DC				
89-341-165-080	TR,2SC4116GR		LED401 87-A40-573-080 C-LED,LT1ED67A GRN/RED				
87-026-411-080	TR,RN1304		R301 87-022-656-080 C-RES,K43G 0.68				
87-026-418-080	TR,RN1311		R311 84-TM1-632-080 C-RES,2.2-1/8W F				
89-111-625-080	TR,2SA1162 (0.15W)		R312 84-TM1-633-080 C-RES,5.6-1/8W F				
89-113-625-080	TR,2SA1362GR(120MHZ,0.)		SW101 87-A90-330-080 C-SW,SL 1-1-2 SSSS81<5YHS>				
SW201	87-A90-703-080		SW151 87-A90-330-080 C-SW,SL 1-1-2 SSSS81				
87-020-125-080	CHIP-DIODE 1SS181		SW202 87-A90-330-080 C-SW,SL 1-1-2 SSSS81<EXCEPT 5YHS>				
87-020-027-080	DIODE,1SS184		SW202 87-A90-703-080 C-SW,SL 1-1-3 SSSS813-B-2B<5YHS>				
87-001-142-080	DIODE,1SS294 (100mA)		SW203 87-A90-788-080 C-SW,MICRO SPBP64				
87-020-339-080	CHIP DIODE,1SS226		SW204 87-036-252-010 SW,PUSH SPBP 51				
87-001-167-080	CHIP-DIODE 1SS302		SW301 87-A90-330-080 C-SW,SL 1-1-2 SSSS81				
87-001-165-080	CHIP-DIODE 1SS300		SW601 84-TM1-638-010 SW,SLIDE 1-1-3 (NC)				
87-001-166-080	CHIP-DIODE 1SS301		TH301 87-A90-855-080 C-THMS,SC20-3K102K				
MAIN C.B			VR101 87-A91-023-010 VR,RTRY 10K-C H				
C100	87-010-194-080		VR201 84-TM1-624-080 C-SFR,220K RVG3A08				
C101	87-010-503-040		SW301 87-024-690-080 C-SFR,4.7K RVG3A08				
C102	87-010-794-080		SW302 87-024-690-080 C-SFR,4.7K RVG3A08				
C103	87-010-794-080		SW205 87-A90-665-180 C-SW,TACT LS7A2M				
C104	87-010-794-080		SW206 87-A90-665-180 C-SW,TACT LS7A2M				
C105	87-010-187-080		SW207 87-A90-665-180 C-SW,TACT LS7A2M				
C107	87-010-198-080		SW208 87-A90-665-180 C-SW,TACT LS7A2M				
C108	87-010-802-080		SW209 87-A90-665-180 C-SW,TACT LS7A2M				
C109	87-A10-952-080		SW205-208 87-012-141-080 CHIP-CAPACITOR, 0.22-16F				
C110	87-010-746-080						
C112	87-010-587-040						
C113	87-010-503-040						
C114	87-010-746-080						
C115	87-010-193-080						
C116	87-012-141-080						
C117	87-010-198-080						
C118	87-012-141-080						
C119	87-016-503-080						
C120	87-016-503-080						
C121	87-012-141-080						
C122	87-010-500-040						
C124	87-010-505-080						
C128	87-010-746-080						
C130	87-010-182-080						
C151	87-010-502-040						
C153	87-010-196-080						
C201	87-010-805-080						
C202	84-TM1-622-080						
C203	87-015-923-080						
C204	87-010-196-080						
C301	87-010-505-080						
C302	87-016-503-080						
C303	87-016-503-080						
C304	87-010-794-080						
C305	87-010-505-080						
	87-010-505-080						
	87-016-503-080						
	87-016-503-080						
	87-010-794-080						
	87-010-505-080						

○チップ抵抗部品コード/CHIP RESISTOR PART CODE

チップ抵抗部品コードの成り立ち

Chip Resistor Part Coding

8 8 - □ □ □ □ □ □

A 抵抗部品コード

Resistor Code

桁表示

Figure

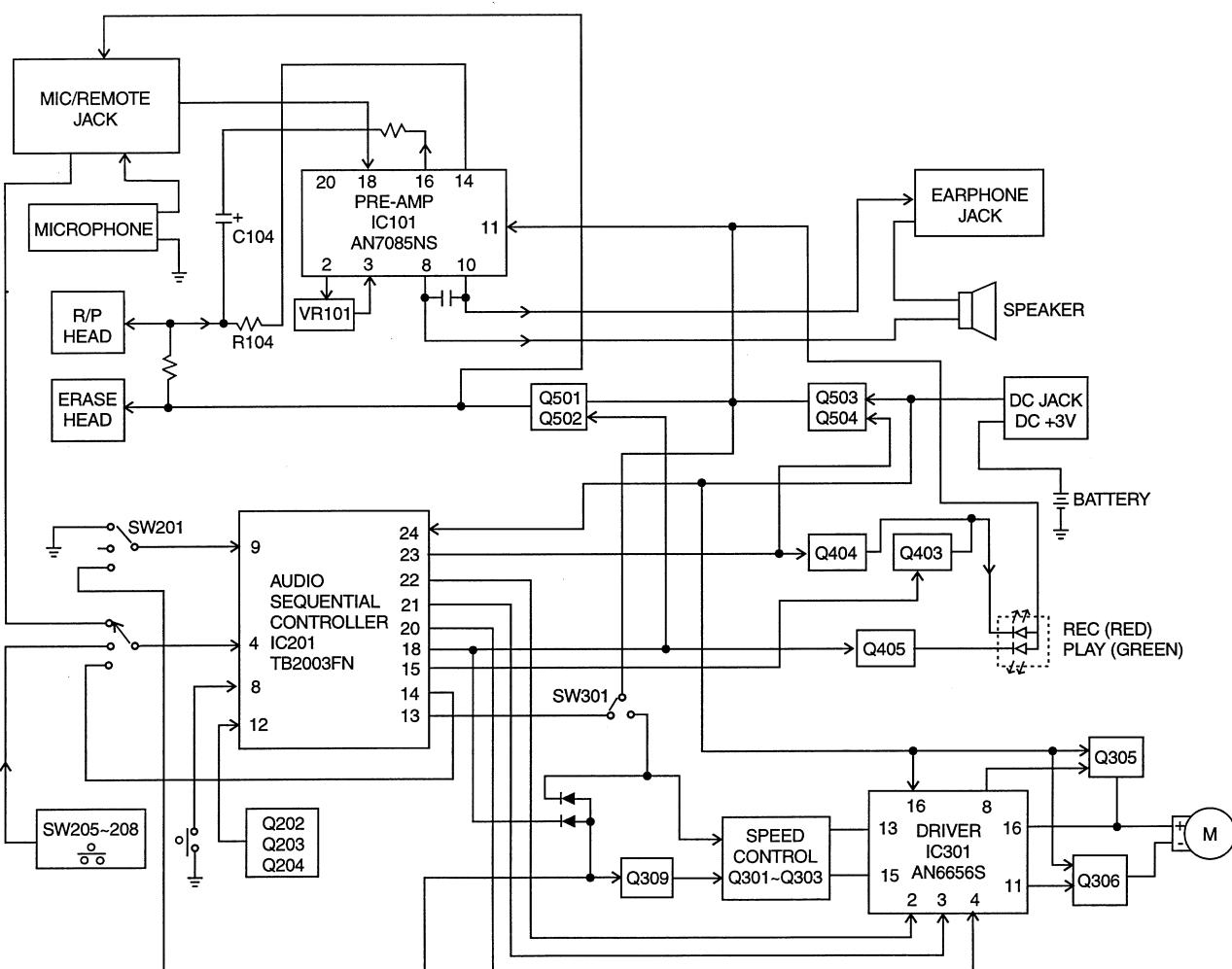
抵抗値

Value of resistor

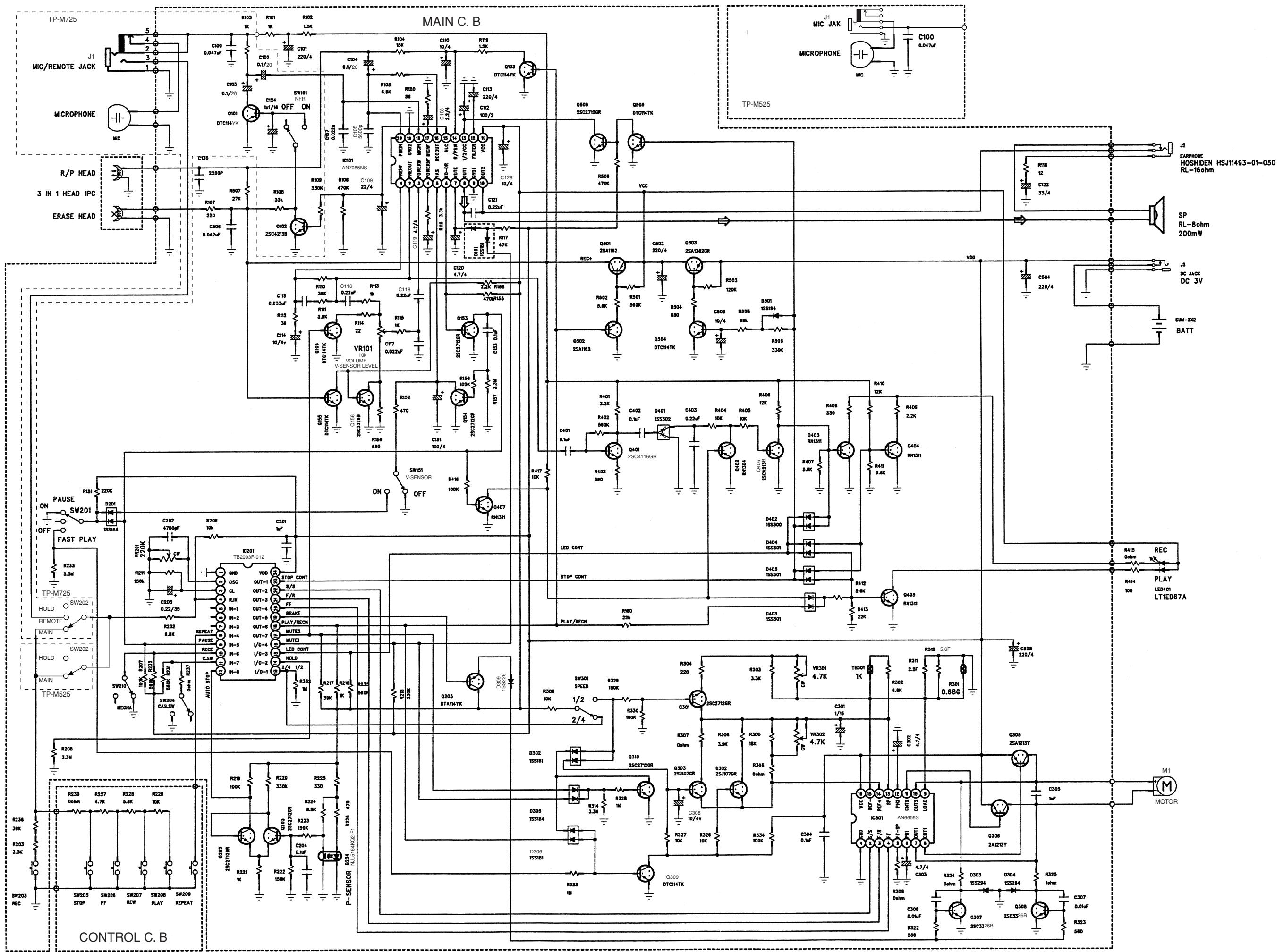
チップ抵抗 Chip resistor

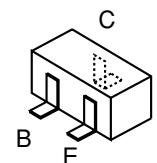
容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法/Dimensions (mm)			抵抗コード : A Resistor Code : A
				外形/Form	L	W	
1/16W	1005	± 5%	CJ		1.0	0.5	0.35 104
1/16W	1608	± 5%	CJ		1.6	0.8	0.45 108
1/10W	2125	± 5%	CJ		2	1.25	0.45 118
1/8W	3216	± 5%	CJ		3.2	1.6	0.55 128

BLOCK DIAGRAM

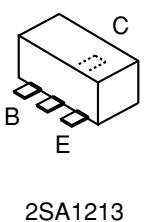


SCHEMATIC DIAGRAM

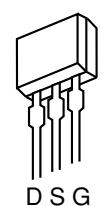




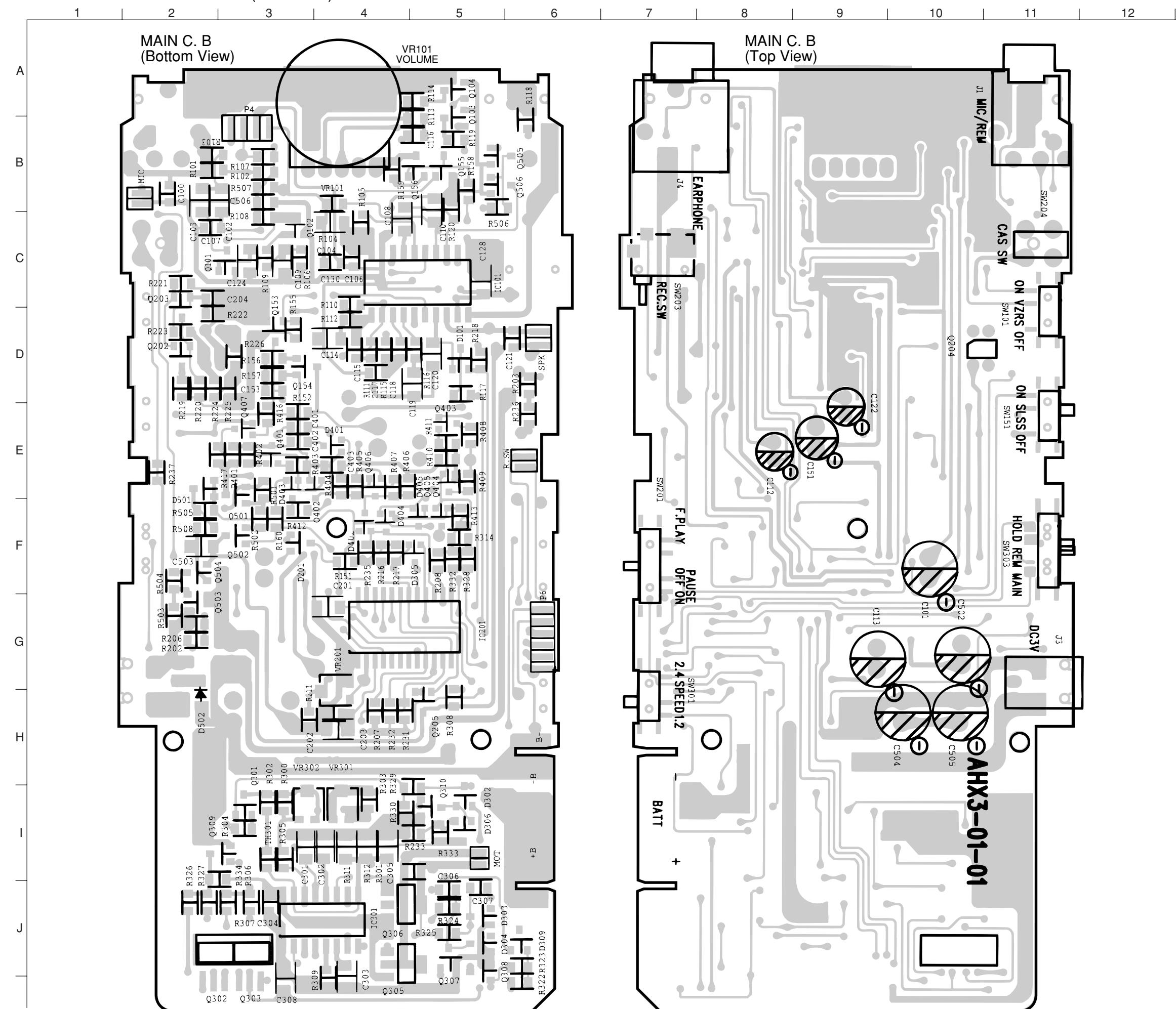
2SA1162
2SA1362
2SC2712
2SC3326
2SC4116
2SC4213
DTA114YK
DTC114YK
DTC114TK
RN1304
RN1311



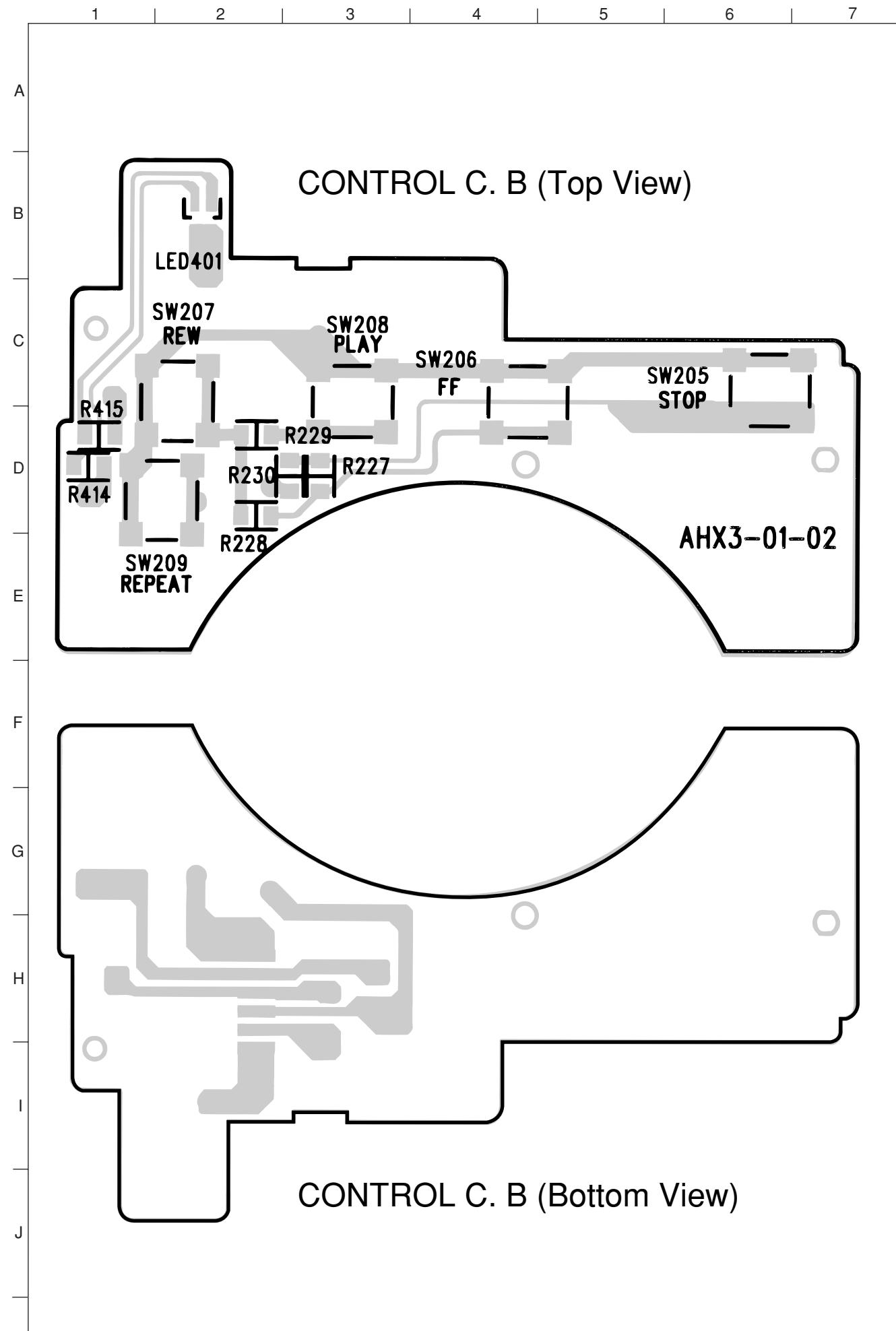
2SA1213



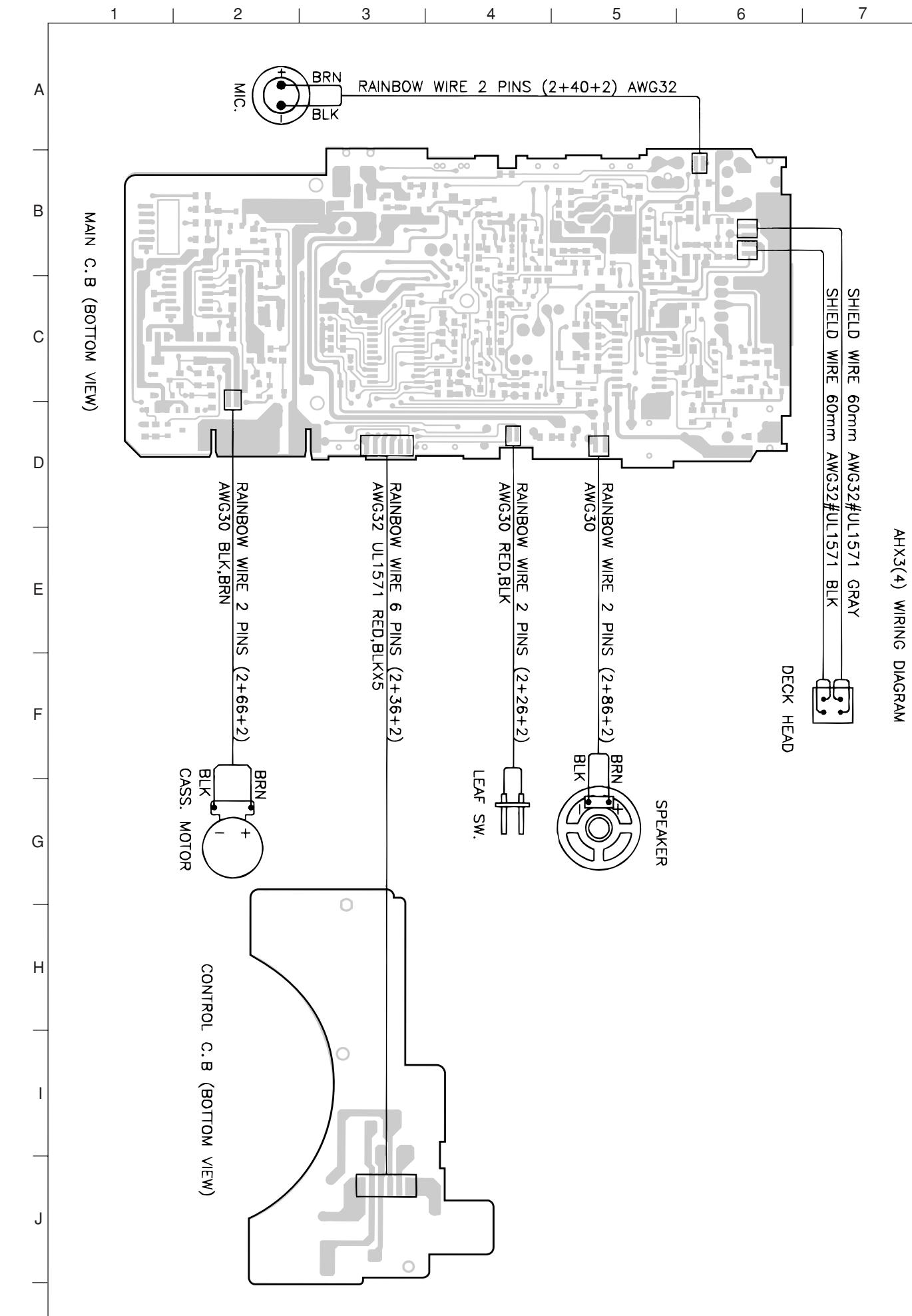
2SJ107



CIRCUIT BOARD DIAGRAM-2 (CONTROL C.B)



WIRING



VOLTAGE CHART

THE READING OF ICS AND TRANSISTORS ARE DC VOLTAGE

UNIT:V

TUNER SECTION

TEST CONDITION: PLAY AND RECORDED

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10
PLAY	1.43	1.45	1.37	1.39	0.01	0	0.51	1.18	0	1.19
REC.	1.49	1.49	1.42	1.43	0.01	0	0.49	1.21	0	1.21
PIN'S NUMBER	11	12	13	14	15	16	17	18	19	20
PLAY	2.95	2.74	1.47	0.21	0	1.36	1.44	1.47	0	1.37
REC.	2.94	2.77	1.49	1.88	0.40	1.50	1.49	1.49	0	1.48

IC201 TB2003FM

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10	11	12
PLAY	0	1.43	2.15	2.95	2.93	2.93	2.93	2.93	1.82	0	0	0.95
REC.	0	1.44	2.15	2.95	2.93	2.94	2.94	2.94	1.85	0	0	0.98
PIN'S NUMBER	13	14	15	16	17	18	19	20	21	22	23	24
PLAY	2.91	0.25	2.78	0	0	2.68	2.38	0	0	2.31	2.30	2.95
REC.	2.91	0.32	2.78	0	0	0.03	2.38	0	0	2.31	2.30	2.96

IC301 AN6657

PIN'S NUMBER	1	2	3	4	5	6	7	8
SPEED 2.4	0	2.30	0	0	0	0	1.46	2.49
SPEED 1.2	0	2.31	0	0	0	0	0.95	2.49
PIN'S NUMBER	9	10	11	12	13	14	15	16
SPEED 2.4	2.31	0.06	2.31	0.64	0.13	0.15	0.03	2.96
SPEED 1.2	2.32	0.06	2.30	0.63	0.08	0.15	0.03	2.96

TRANSISTOR	Q501(2SA1162GR)			Q502(2SA1162GR)			Q503(2SA1362GR)			Q504(DTC114TK)		
	E	C	B	E	C	B	E	C	B	E	C	B
PLAY	2.21	2.95	2.77	2.76	0	2.68	2.96	2.95	2.21	0	0.12	0.83
REC.	2.93	2.88	2.22	0.63	0	0.03	2.95	2.93	2.20	0	0.12	0.82

TRANSISTOR	Q135(DTC114TK)			Q136(DTC114TK)			Q403(RN1311)			Q404(RN1311)		
	E	C	B	E	C	B	E	C	B	E	C	B
PLAY	0	0.74	0	0	0	0.74	0	2.96	0	0	2.96	0
REC.	0	0.01	2.89	0	0	0.01	0	0.15	0.91	0	0.06	0.92

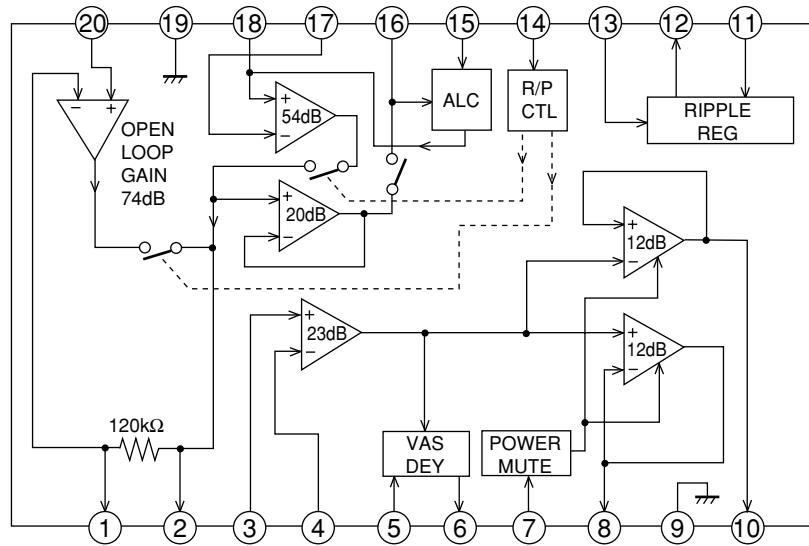
TRANSISTOR	Q405(RN1311)		
	E	C	B
PLAY	0	0.99	0.82
REC.	0	1.53	0

TRANSISTOR	Q305(2SA1213Y)			Q306(2SA1213Y)			Q302(2SJ107GR)			Q303(2SJ107GR)		
	E	C	B	E	C	B	E	C	B	E	C	B
SPEED 1.2	2.96	0.06	2.89	2.96	0.95	2.32	0.08	2.93	0.15	0.08	2.93	0.13
SPEED 2.4	2.96	0.06	2.49	2.96	1.46	2.30	0.13	2.93	0.15	0.13	2.93	0.15

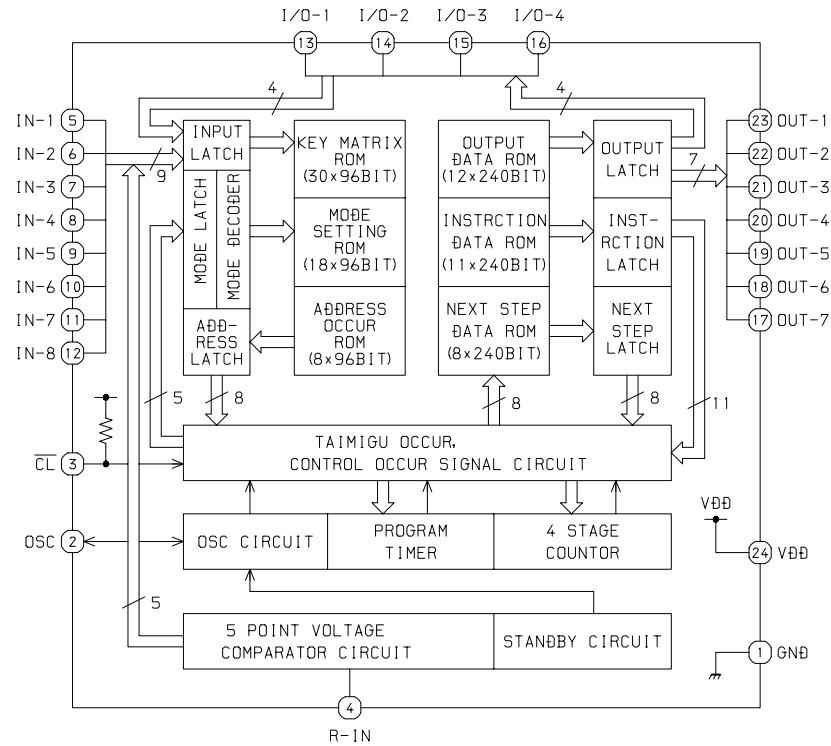
TRANSISTOR	Q301(2SC2712GR)			Q309(DTC114TK)			Q310(2SC2712GR)		
	E	C	B	E	C	B	E	C	B
SPEED 1.2	0.06	0.08	0.64	0	2.69	0	0	6.05	-0.26
SPEED 2.4	0.03	0.13	0	0	2.69	0	0	4.35	-0.20

IC BLOCK DIAGRAM

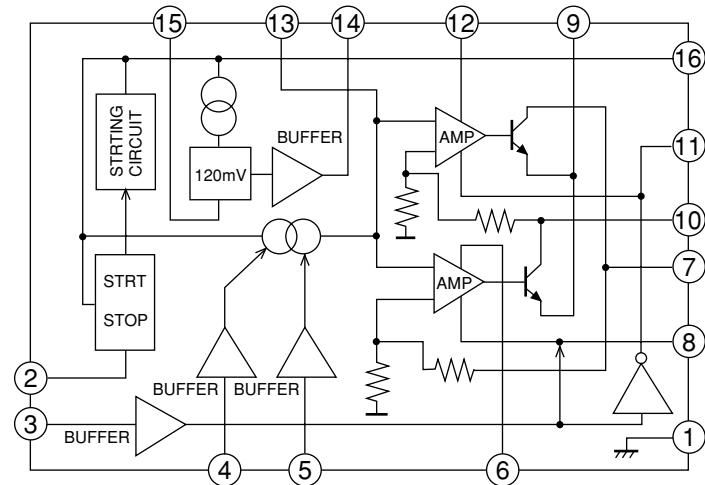
IC, AN7085NS



IC, TB2003F-012

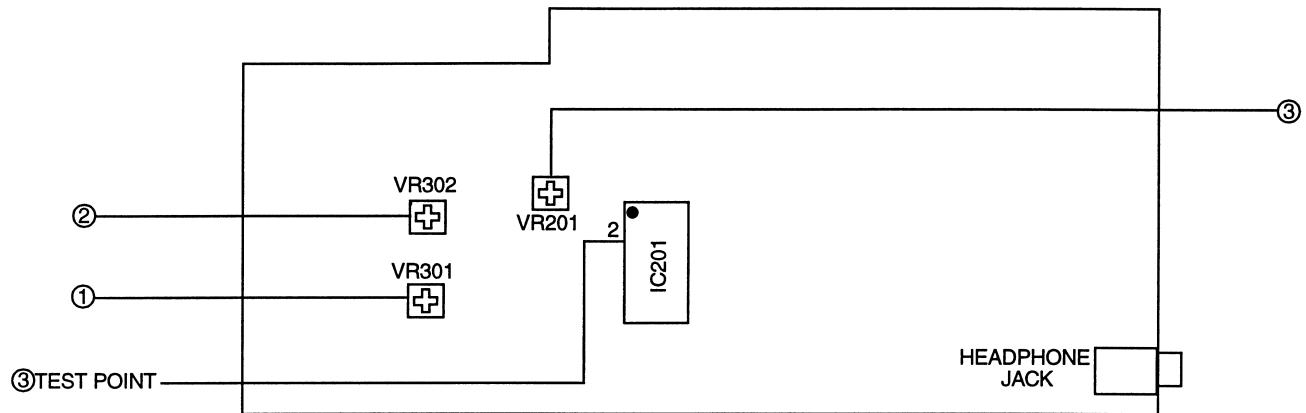


IC, AN6656S



ADJUSTMENT

MAIN CB (Bottom View)



1. Tape Speed (1.2cm/s) Adjustment

Test point: headphone jack

Test tape: TTS-910

Adjustment location: VR301

VR301 ----- 3000Hz

2. Tape Speed (2.4cm/s) Adjustment

Test point: headphone jack

Test tape: TTS-900

Adjustment location: VR302

VR302 ----- 3000Hz

3. Clock frequency Adjustment

Test point: IC201 (TB2003F12) 2PIN

Adjustment location: VR201

VR201 ----- 3160Hz ±40Hz

PRACTICAL SERVICE FIGURE

Tape speed: 3000 Hz ± 90 Hz

Wow & flutter: Less than 0.85% (RMS) (2.4cm)

Less than 1.5% (RMS) (1.2cm)

Take-up torque: 4 ~ 12 g-cm

F.F torque: 4 ~ 15 g-cm

Rew torque: 25 ~ 60 g-cm

Back tension: Less than 1.2 g-cm

S/N ratio: More than 44 dB (DC. PB)

More than 26 dB (DC. R/PB)

Noise level: Less than 1.5 mV (DC. Vol Max. PB)

Less than 14 mV (DC. Vol Max. R/PB)

Erasing ratio: More than 50 dB (1 kHz)

Test tape: TTS-900 (Wow & flutter/Tape speed – 2.4 cm)

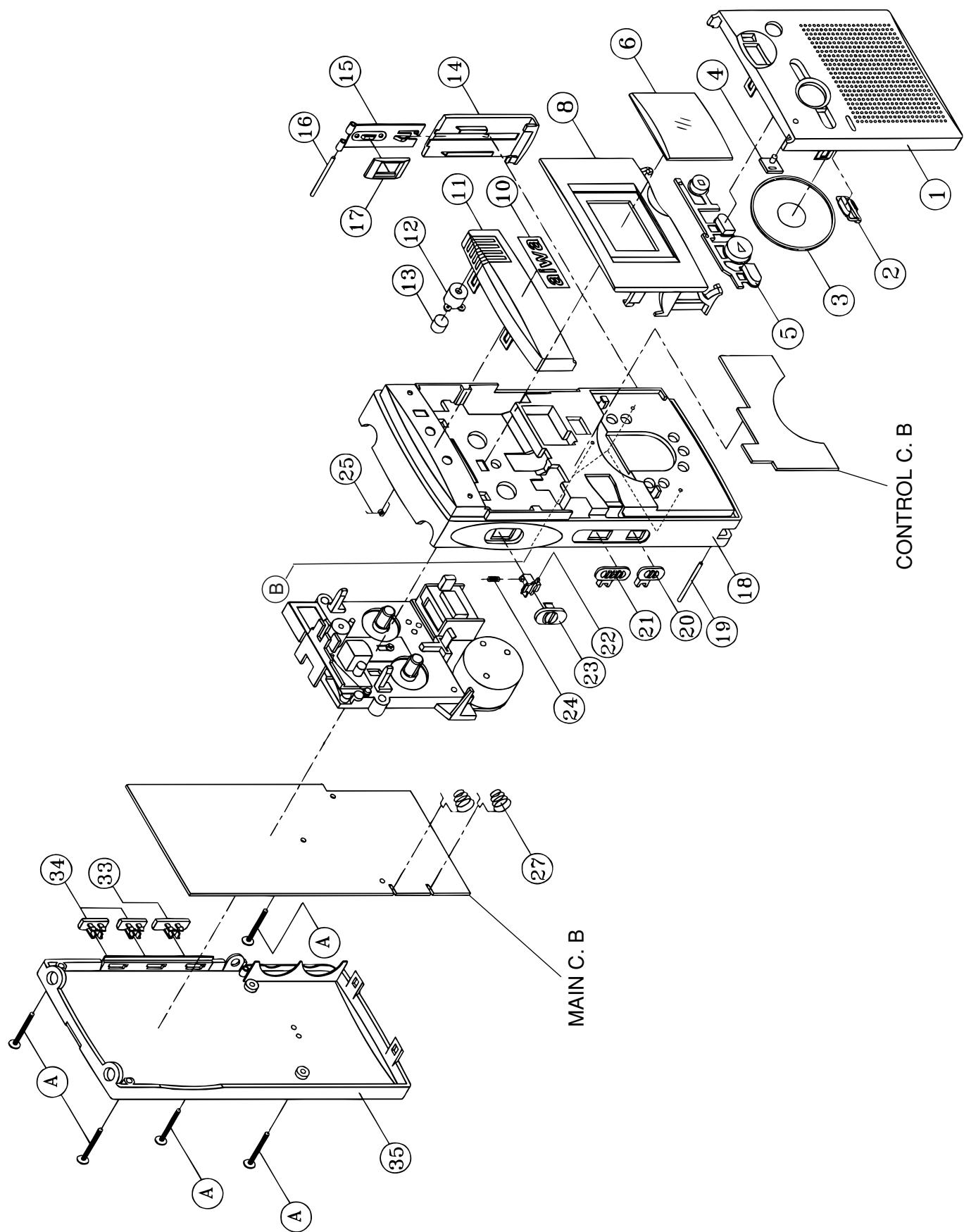
TTS-910 (Wow & flutter/Tape speed – 1.2 cm)

TTS-920 (Distortion/Output)

TTS-930 (Azimuth)

TTS-940 (REC/PB)

MECHANICAL EXPLODED VIEW 1/1



MECHANICAL MAIN PARTS LIST 1/1

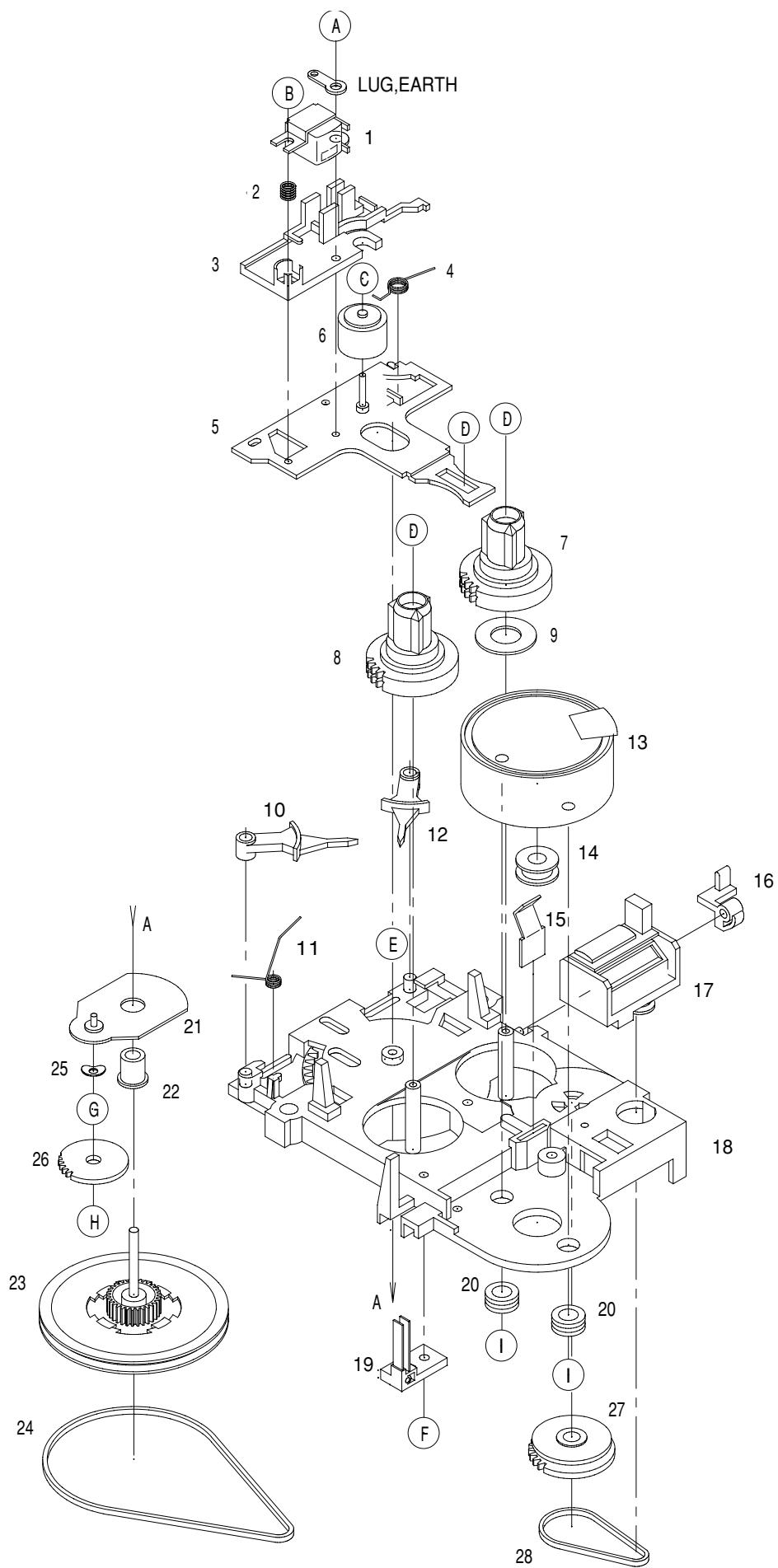
DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	8A-HX3-001-010		PANEL, SPEAKER
2	88-HX2-112-010		BTN, ONCE MORE
3	84-TM1-635-010		SP, DIA36
4	88-HX2-130-010		LENS, REC/OPE
5	8A-HX3-002-010		BTN, PLAY
6	8A-HX3-005-010		WINDOW, CASS<7YSC>
6	8A-HX4-006-010		WINDOW, CASS<EXCEPT 7YSC>
8	8A-HX3-003-010		LID, CASS
10	87-054-093-010		BADGE AIWA 22.5 MLDS<7YSC>
11	88-HX2-103-010		PANEL, MIC
12	88-HX2-201-010		HLDR, MIC
13	82-TP3-609-010		ECM
14	88-HX2-107-010		LID, BAT
15	84-TM1-201-010		BATT, HINGE
16	88-HX2-207-010		SHAFT, HINGE
17	84-TM1-218-010		GUARD, BATT
18	88-HX2-123-010		CABI, FRONT Y<7YSC>
18	8A-HX4-001-010		CABI, FRONT<EXCEPT 7YSC>
19	88-HX2-204-010		SHAFT, STRAP
20	88-HX2-115-010		KNOB, SL SPEED
21	88-HX2-116-010		KNOB, SL PAUSE
22	88-HX2-133-010		BTN, REC LOCK
23	88-HX2-132-010		KNOB, SL REC
24	84-TM1-206-010		C-SP, REC
25	88-HX2-208-010		SPR-T, CASS
27	88-HX2-205-010		BAT-CONTACT, (+-)
33	88-HX2-114-010		KNOB, SL MAIN<7YSC>
34	88-HX2-113-010		KNOB, SL VZRS/SLSS
35	88-HX2-124-010		CABI, REAR Y
A	84-TM1-217-010		SCREW PAN MOLD M2X16
B	87-067-432-010		VT1.4-5 WHITE

COLOR NAME TABLE

Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange		

TAPE MECHANISM EXPLODED VIEW 1/1



TAPE MECHANISM PARTS LIST 1/1

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	SC-M66-180-000		HEAD, 3-IN-1	21	S8-10A-020-000		GEAR PLATE ASSY
2	S7-550-680-000		AZIMUTH SP	22	S8-100-030-000		BEARING FW
3	S8-100-140-000		SPACER HEAD	23	S8-10A-090-000		FW ASSY
4	S8-100-240-000		PINCH SP	24	SV-310-000-000		BELT, MAIN
5	S8-10A-100-000		HEAD BASE ASSY	25	SP-117-000-000		SPR, FLECTION
6	S4-010-450-000		PINCH, ROLLER	26	S7-500-070-000		GEAR, FWD
7	S8-10A-050-000		REEL ASSY (T)	27	S8-100-210-000		GEAR, SECOND
8	S8-10A-060-000		REEL ASSY (S)	28	SV-320-000-000		BELT, COUNTER
9	S4-014-020-000		PLATE REFLECTING	A	S3-PW1-7X2-500		SCREW
10	S8-100-200-000		ARM REV	B	S3-PB1-7X7-000		SCREW, AZIMUTH
11	S8-100-250-000		HEAD, BASE SP	C	S1-2X3-X02-500		WASHER CUT
12	S8-100-120-000		ARM PLAY	D	S2-00B-T01-000		SCREW, HEADER
13	SB-CY3-B00-000		MOTOR	E	S1-2X2-35X-050		WASHER CUT
14	S4-301-020-000		MOTOR PULLEY	F	SB-TY2-0X4-703		SCREW
15	S8-100-180-000		CST HOLDER SP	G	S2-6X4-X01-880		WASHER
16	S8-101-430-000		CASE, LEVER	H	S2-1X4-X02-500		WASHER CUT
17	SM-MP3-800-340		COUNTER	I	S6-026-200-000		SCREW
18	S8-100-010-000		CHASSIS MOLD				
19	SM-SW1-838-0MM		SW, LEAF				
20	S0-71B-000-000		CUSHION RUBBER				

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